

CLAIMS

1. An occluder for use in a body passageway comprising:
 - a catheter having a distal end,

a multi-wing blood flow blocking element positioned near the distal end of the catheter,
said multi-wing blood flow blocking element having a radially compressed insertion state and a radially expanded blocking state,
an actuator associated with said catheter to move said blood flow blocking element from said compressed state to said expanded state, and
said blood flow blocking element in said radially expanded blocking state having a generally funnel surface extending out from said distal end of said catheter.
2. The occluder of claim 1 further comprising an annular membrane around said wings of said blood flow blocking element.
3. The occluder of claim 1 wherein said multiwing blood flow blocking element is a malecot style device.
4. The occluder of claim 2 wherein said membrane is an elastomeric, impermeable membrane.
5. The occluder of claim 1 wherein said actuator extends, through said lumen, distal of said blood flow blocking element and when moved in a proximal direction, engages said blood flow blocking element to switch said blood flow blocking element from said retracted insertion state into said radially expanded blocking state.
6. The method of deploying an occluder in a body passageway comprising:
 - inserting a catheter into a body passageway, said catheter having a multi-wing blood flow blocking element,
providing said blood flow blocking element in a radially compressed state during said step of inserting,
radially expanding said blood flow blocking element into a radially expanded state extending to or near to the wall of the body passageway after said step of inserting,
said step of radially expanding including providing said expanded state with a generally funnel surface extending out from said distal end of said catheter, and
using said expanded state of said blood flow blocking element for blocking passage of material around the outside of said catheter.

7. The method according to claim 6 wherein said blood flow blocking element is a malecot-style blood flow blocking device covered with an annular elastomeric, impermeable membrane.

8. A method of capturing tissue in a body comprising:
inserting an elongate tubular member, having a lumen, a proximal end and a distal end, into a body,

providing a malecot-style tissue capture element in a radially compressed state during the step of inserting,

radially expanding the tissue capture element into a radially expanded state after the step of inserting, and

providing a proximal surface on said the capture element, the proximal surface extending out from the distal end of the elongate tubular member wherein the tissue is captured along the proximal surface.

9. The method according to claim 8 wherein the tissue capture element is generally funnel shaped when in the radially expanded state.

10. An occluder for use in a body passageway comprising:
a catheter having a distal end,
a blood flow blocking element comprising structural members which define openings therebetween, the blood flow blocking element positioned near the distal end of the catheter,
said blood flow blocking element having a radially compressed insertion state and a radially expanded blocking state,
an actuator associated with said catheter to move said blood flow blocking element from said compressed state to said expanded state, and
said blood flow blocking element in said radially expanded blocking state having a generally funnel surface extending out from said distal end of said catheter.

11. The occluder of claim 10 further comprising an annular membrane around said structural members of said blood flow blocking element.

12. The occluder of claim 11 wherein said blood flow blocking element is a malecot style device.

13. The occluder of claim 11 wherein said membrane is an elastomeric, impermeable membrane.

14. The occluder of claim 10 wherein said actuator extends, through said lumen, distal of

said blood flow blocking element and when moved in a proximal direction, engages said blood flow blocking element to switch said blood flow blocking element from said retracted insertion state into said radially expanded blocking state.

15. A method of deploying an occluder in a body passageway comprising:
 - inserting a catheter into a body passageway, said catheter having a blood flow blocking element comprising structural members which define openings therebetween and an axially movable actuator operably coupleable to the blood flow blocking element ,
 - providing said blood flow blocking element in a radially compressed state during said step of inserting,
 - moving the actuator thereby radially expanding said blood flow blocking element into a radially expanded state extending to or near to the wall of the body passageway after said step of inserting,
 - said step of radially expanding including providing said expanded state with a generally funnel surface extending out from said distal end of said catheter, and
 - using said expanded state of said blood flow blocking element for blocking passage of material around the outside of said catheter.

16. The method according to claim 15 wherein said blood flow blocking element is a malecot-style blood flow blocking device covered with an annular elastomeric, impermeable membrane.

17. A method of capturing tissue in a body comprising:
 - inserting an elongate tubular member, having a lumen, an actuator passing through the lumen, a proximal end and a distal end, into a body,
 - providing a tissue capture element in a radially compressed state during the step of inserting, the tissue capture element comprising structural members which define openings therebetween, the actuator operably coupleable to the tissue capture element,
 - moving the actuator thereby radially expanding the tissue capture element into a radially expanded state after the step of inserting, and
 - providing a proximal surface on said the capture element, the proximal surface extending out from the distal end of the elongate tubular member wherein the tissue is captured along the proximal surface.

18. The method according to claim 17 wherein the tissue capture element is generally funnel shaped when in the radially expanded state.

19. A medical instrument for use in a body comprising:
an elongate tubular member having a lumen and a distal end,
a blood flow blocking element comprising structural members which define openings therebetween, the blood flow blocking element positioned near said distal end of said elongate member,
an annular membrane around said structural members of said blood flow blocking element,
said blood flow blocking element having a radially compressed state and a radially expanded blocking state,
an actuator associated with said elongate member to move said blood flow blocking element from said compressed state and to said blocking state,
said blood flow blocking element in said radially expanded blocking state having a generally funnel shape surface extending from said distal end of said elongate tubular member.

20. The medical instrument of claim 19 wherein said membrane is an elastomeric, impermeable membrane.

21. The medical instrument of claim 19 wherein said actuator extends, through said lumen, distal of said blood flow blocking element and when moved in a proximal direction, engages said blood flow blocking element to switch said blood flow blocking element from said retracted compressed state into said radially expanded state.

22. An occluder for use in a body passageway comprising:
a catheter having a distal end,
a blood flow blocking element comprising structural members which define openings therebetween, the blood flow blocking element positioned near the distal end of the catheter, and
an annular membrane around said structural members of said blood flow blocking element,
said blood flow blocking element having a radially compressed insertion state and a radially expanded blocking state,
an actuator associated with said catheter to move said blood flow blocking element from said compressed state to said expanded state.

23. The occluder of claim 22 wherein said membrane is an elastomeric, impermeable membrane.

24. The occluder of claim 22 wherein said actuator extends, through said lumen, distal of

said blood flow blocking element and when moved in a proximal direction, engages said blood flow blocking element to switch said blood flow blocking element from said retracted insertion state into said radially expanded blocking state.

25. The method of deploying an occluder in a body passageway comprising the steps of:
inserting a catheter into a body passageway, said catheter having a blood flow
blocking element comprising structural members which define openings therebetween, the blood
flow blocking element covered with an annular elastomeric, impermeable membrane, and an axially
movable actuator operably coupleable to a distal portion of the blood flow blocking element,
providing said blood flow blocking element in a radially compressed state during said
step of inserting, and

moving the actuator thereby radially expanding said blood flow blocking element into
a radially expanded state extending to or near to the wall of the body passageway after said step of
inserting, and

using said expanded state of said blood flow blocking element for blocking passage of
material around the outside of said catheter.

26. The method of claim 25 wherein said step of radially expanding includes providing
said expanded state with a generally funnel surface extending out from said distal end of said
catheter.

27. The method of claim 25 wherein the actuator moving step comprises proximally
pulling the actuator.